

REMARKS/ARGUMENTS

Claims 1–14, 21 and 23–27 are pending.

Claim 1 is amended to define how the nature of the product is an insulation product rather than the type of product described in the cited art. Notably, the insulation product in amended claim 1 is manufactured by internal or external centrifugal fiberizing thereby imparting structure into the claimed product and giving direct correlation to the preambular phrase. Support for this amendment is found on page 1, 3rd paragraph.

No new matter is added.

The invention as defined by the claims of the application is (a) an insulation product composed of mineral fibers comprising the polycarboxylic acid and polyamine as the sizing composition on those fibers; and/or (b) a method of manufacturing an insulation product comprising applying a sizing composition of polycarboxylic acid and polyamine to mineral fibers and treating that under conditions (e.g., heat) to cure the sizing composition on the mineral fibers.

The Examiner has raised a series of rejections based primarily on U.S. 5,437,928 to Thimons. More specifically, claims 1-4, 6-12, 14, 21, 24-25, 27 were rejected under 35 USC 102(b) citing only Thimons; claim 5 was rejected under 35 USC 103(a) citing Thimons and Nigam; Claim 13 was rejected under 35 USC 103(a) citing Thimons alone; Claim 23 was rejected under 35 USC 103(a) citing Thimons with Drummond; and Claim 25 was rejected under 35 USC 103(a) citing Thimons alone.

Thus, a central question pertinent to all of the rejections is whether Thimons describes or reasonably suggests an insulation product composed of mineral fibers comprising the polycarboxylic acid and polyamine as the sizing composition on those fibers. Thimons does not describe an insulation product but rather a glass fiber mat specially constructed for reinforced composites and laminates.

Thimons is cited because it teaches a size applied to fibers that can include carboxylic acid and polyamine, among other components. See, e.g., col. 5, lines 40-50 and Table 1 (Example 1) in col. 7 relating to the subject matter of Claims 1-4, 6-12, 14, 21, 24-25 and 27 (Official Action at pages 2-3).

While Applicants understand that, during the prosecution of an application in the Office, claims are to be given their broadest reasonable interpretation consistent with the teaching in the specification (*In re Bond*, 710 F.2d 831, 833 (Fed. Cir. 1990)), it is error to disregard express limitations in the claims. The Examiner may not set up a “strawman” claim and reject it rather than subject matter encompassed by the actual claims.

The plain language of Applicants’ claims requires “thermal and/or acoustic insulation product” (cf Claim 1).

Thermal and/or acoustic insulation products comprising mineral fibers are manufactured by the well known technique of external or internal centrifugal fiberization. One of the points raised in the Advisory Action (see the discussion bridging pages 2-3) was that the feature of manufacture was not recited in the claims. As apparent from this submission, that feature is now recited in the claims.

As was previously explained in the After Final submission, this technique is illustrated in Fig. 13.5 for mineral fibers such as rock wool (external centrifugal fiberization) and in Fig. 13.6 for glass fibers (internal centrifugal fiberization) of the previously submitted document entitled “Phenolic Resins; A. Knop and LA Pilato; Ed. Springer-Verlag; p. 215–216; 1985.

In particular, the internal centrifugation involves introducing the molten material (glass) into spinner(s) having a multitude of, small holes, the material being thrown against the peripheral wall of the device in the form of filaments varying in length. At the exit of the device, the filaments are attenuated and entrained by a high-temperature high-velocity gas

stream toward a receiving member (conveyor) in order to form a web of randomly distributed fibers (p. 1, I. 21–33 of the English translation of the PCT application provided to you on October 14, 2005).

To ensure mutual assembly of the fibers, the fibers leaving the spinner(s) are sprayed with a sizing composition (resin sprays) containing a thermosetting resin and then the web of sized fibers is heat-treated in order to crosslink the resin (p. 2, I. 1–7).

The final product is an insulation product composed of fibers bonded together by junctions points that are sufficiently strong to ensure good adhesion and to ensure that the product does not tear when used (p. 2, I. 15–18). The junctions between the fibers provide a network that is stable and rigid enough to withstand the compression imposed by storing and transporting the product, and meets the supplier's specifications when the product is being made (p. 2, I. 21–26), that is to say after being unfolded or unrolled.

While Applicants understand that in some instances a preamble phrase is not considered as a limitation when it simply states a purpose or intended use (MPEP 2111.02), in the present case the phrase thermal and/or acoustic insulation product defines the structure of the product because that phrase does give specific meaning to what the claims are and what they are not. Indeed, as explained in detail above referencing the attached publications, a thermal and/or acoustic insulation product has specific structure that delineates it from other materials.

Guidance on the discussion for preambular phrasing is found in MPEP 2111.02: "If the claim preamble, when read in the context of the entire claim, recites limitations of the claim, or, if the claim preamble is 'necessary to give life, meaning, and vitality' to the claim, then the claim preamble should be construed as if in the balance of the claim." *Pitney Bowes, Inc. v. Hewlett-Packard Co.*, 182 F.3d 1298, 1305, 51 USPQ2d 1161, 1165-66 (Fed. Cir. 1999). Any terminology in the preamble that limits the structure of the claimed invention

must be treated as a claim limitation. See, e.g., *Corning Glass Works v. Sumitomo Elec. U.S.A., Inc.*, 868 F.2d 1251, 1257, 9 USPQ2d 1962, 1966 (Fed. Cir. 1989). Further, that the body of the claim specifically relies upon and recites features that impart structural characteristics into the claimed product is evidence as to why the preamble is a limitation worthy of consideration.

Thus, the product that is defined in the claims is different, in terms of its structure, when compared to Thimons.

Thimons et al. (US 6 437 926), disclose an aqueous size composition for glass fibers, and the use of said glass fibers to form a mat suitable for use as reinforcement for thermoplastic polymers (col. 1, I. 4–6).

Mats for the reinforcement of thermoplastic polymers provide reinforced composites and laminates of excellent strength, which have good flow and other properties when molded or shaped 'into various articles (col. 1, I. 63–67).

Thimons et al. disclose that the mat is obtained from glass fibers onto which the size composition is applied by any method known to those skilled in the art (col. 6, I. 62–64). The application of the size composition to the fiber normally results in strands or fibers.

The conventional method used for the manufacture of strands of fibers is illustrated in Fig. 111/11 of *The Manufacturing Technology of Continuous Glass Fibers*; K.L. Loewenstein; Ed. Elsevier; p. 27–29; 1983, previously submitted.

Molten glass exudes from nozzles located on the underside of a bushing. The glass issued from each nozzle is drawn into a fiber and the whole fan of individual fibers (called filaments) passes through a light water spray and then over a fiber site applicator which transfers the size onto the filaments before they are gathered into a bundle; of filaments called strands. From there, the strand passes to the attenuation machine, i.e. a winder consisting of a slightly expandable rotating cylinder, called collet, covered with a removable tube on which

the strand is wound (p. 28, § 2 – 3). The package of strand, called cake, is dried and after is ready to be converted into saleable products (p. 29, § 1).

Said saleable products include chopped strand, continuous strand or roving, milled strand or mats, in particular needled continuous strand or mats, as disclosed by Thimons et al. (col. 6, I. 3-10).

All the examples given by Thimons et al. use a needled continuous strand mat which is combined with a polypropylene film and pressed to obtain a laminate.

Clearly, the mat of Thimons et al. is not a thermal and/or acoustic insulator product as claimed in present Claim 1.

One having skilled in the art of the manufacture of insulation products would not have considered Thimons et al. because it refers to reinforcing mats for polymer which belongs to a technical field which is far from that of the present invention.

As should now be apparent, the chemical composition and role of the sizing composition, the process for the manufacture of fibers and the mat made from the fibers are very different.

Therefore, Claims 1–14, 21 and 23–27 cannot be anticipated by nor obvious in view of Thimons et al.

The addition or Nigam (to reject Claim 5) or Drummond (to reject Claim 23) to Thimons does not resolve the fundamental differences between the product defined in the present claims and the very different product taught by Thimons.

Indeed, just like Thimons, Drummond discloses one method used to manufacture of needled continuous strand mats (col. 6, I. 61). Drummond discloses that the needled mat may be obtained from continuous glass strands either formed from molten glass flowing from a bushing as explained above (Fig. 1, right part) or coming from packages (Fig. 4, left part).

Reconsideration and withdrawal of all of the outstanding rejections is requested.

Also, a Notice of Allowance is requested.

Respectfully submitted,

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